Commonwealth of Kentucky
Division for Air Quality

PERMIT STATEMENT OF BASIS

(DRAFT)
Title V, Operating
Permit: V-04-012 R1
Domtar Paper Company - Hawesville Operations
Hawesville, Hancock County, KY 42348
March 30, 2007
IL-Won Shin, Reviewer

SOURCE I.D. #:	021-091-00005
SOURCE A.I. #:	43431
ACTIVITY #:	APE20050002

RESPONSE TO EPA'S COMMENTS:

On December 15, 2004, the public notice on availability of the draft permit and supporting material for comments by persons affected by the plant was published in *The Hancock Clarion* in Hawesville, Kentucky. The public comment period expired 30 days from the date of publication. A proposed permit (V-04-012) was issued April 15, 2005. Division for Air Quality (DAQ) received USEPA comment via email on June 7, 2005. The source submitted response comments to USEPA on July 8, 2005. USEPA responded to source comments via email on July 11, 2005.

Changes Made to the Title V Permit in Response to EPA's Region IV Memorandum Dated 6/2/2005

Significant Comments

1. KMM process units should be removed from the permit since they have been permanently shut down and their emission reductions have been claimed for netting purposes in this permitting action. Should the process units be reactivated, the process units would necessarily have to go through some form of preconstruction permitting.

   The Facility and EPA agreed on this comment.

   Facility's response: Domtar Paper concurred with this comment.

   Title V Permit Change: Removed the KMM process units, which have been permanently shut down.

2. Unit 19, permit condition 4.c. should be updated to cite to the paragraph in the regulation that specifies the specific leak detection and repair requirements found at 40 CFR 63.450(a). The permit condition should be changed to read as follows:
   "Pursuant to 40 CFR 63.450(a), implement a Leak Detection and Repair Program (LDAR) for each enclosure and closed-vent system."

   The Facility and EPA agreed on this comment.

Facility's response: Domtar Paper agreed with this comment.

Title V Permit Change: 40 CFR 63.453 changed to 40 CFR 63.450(a) in Subsection 4.c.

Unit 6 - KMM Package Boiler

1. There should be an annual emission limit of 40 tons of sulfur dioxide per year.

   We rescind this comment based on the Facility's submitted information. We are open to either the emission cap approach or the currently included fuel usage and sulfur limit. We believe that it is not necessary to have the emission cap and the fuel usage/sulfur limits to effectively limit the package boiler's potential to emit to below prevention of significant deterioration (PSD) significant emission rate levels.

   Facility's response: In comments made to DAQ in a letter dated October 7, 2004, Domtar Paper requested that the annual SO_2 limit of 40 tons per year replace the current limitations on the number of gallons of fuel oil and the sulfur content (percentage). Domtar paper can agree to this requirement only if the limitations on the gallons burned per year (665,000 gallons) and the sulfur content (<0.764%) be removed in order to prevent restrictive redundancy.

   Title V Permit Change: Removed fuel and sulfur operation limitations in Subsection 1 and added 40 ton per year SO_2 limit to Subsection 2.

2. There should be a compliance demonstration method for the annual NO_X emission limit.

   We accept the Facility's agreed approach to demonstrating compliance with this limit.

   Facility's response: Domtar Paper agreed with EPA that a compliance demonstration should be made and suggests something similar to what is done for PM_{10}. The formula would be: (the sum of fuel consumed in any 12 months x AP-42 emission factor (for the fuel)) / 2000. This would clearly demonstrate compliance because the calculation accounts for fuel usage. However, Domtar Paper also noted there should be a compliance demonstration for the annual SO_2 limit as well based upon comment number 1 above.

   Title V Permit Change: Added an annual Compliance Demonstration Method for NO_X.

3. There is a NO_X emission limit of 0.20 pounds per million British thermal units (lbs/mmBtu) pursuant to 401 KAR 59:015, Section 6. This regulation applies to boilers greater than 250 mmBtu/hour.

   We rescind this comment based on the Facility's submitted information.

   Facility's response: Domtar Paper agreed since this boiler is 180 mmBtu/hr and requested the limitation be removed since we cannot find any NO_X regulatory requirements for units less than 250 mmBtu/hr.

   Title V Permit Change: Removed the 0.20 lbs/mmBtu NO_X emission limit from Subsection 2.

4. There is an annual NO_X emission limit of 40 tons per year (TPY). There should be a limit on the hours of operation to ensure the 40-ton per year limit is not exceeded.

   We rescind this comment based on the Facility's submitted information and agree with the Facility's requested approach.

   Facility's response: Domtar Paper submitted that due to the multiple fuels capability of this boiler the operating hour limitation is impractical. This is due to the fact that the hour at which the limit may be exceeded would be impossible to precisely determine when more than one fuel is fired. Domtar Paper submitted more useful way compliance could be demonstrated is the use of the same type formula that is used for PM_{10}.

   Title V Permit Change: Added an annual Compliance Demonstration Method for NO_X.

5. There should be short term NO_X emission limits while firing natural gas, and short term NO_X emission limits while firing fuel oil.

   We rescind this comment based on the Facility's submitted information.

   Facility's response: Domtar Paper is unaware of any applicable standard or regulatory requirement requiring this limit. Please cite the regulation(s) or standard(s) for this limitation. If there is no requirement, no emission limit is needed.

   Title V Permit Change: No change, since there is no permit requirement.

6. There should be short term SO_2 emission limits while firing natural gas, and short term SO_2 emission limits while firing fuel oil.

   We rescind this comment based on the Facility's submitted information and agree with the Facility's analysis and approach.

   Facility's response: Domtar Paper believes the 0.92 lbs of SO_2/mmBtu currently in the permit to be incorrect. In 1985, when this unit was permitted and started up, there were two additional wood fired boilers operating in addition to this boiler whose total capacity was much greater than 250 mmBtu/hr. 401 KAR 59:015 Section 5(1)(b) requires a limitation of 0.8 lbs SO_2/mmBtu for boilers whose total aggregate heat input from the facility is greater than 250 mmBtu/hr. Therefore the short-term limitation should be changed to 0.8 lbs SO_2/mmBtu.

   Title V Permit Change: Based on 401 KAR 59:015 Section 5(1)(b) the SO_2 limit was changed to 0.8 lbs/mmBTU in Subsection 2.

7. There should be a compliance demonstration method for the annual SO_2 emission limit.

   We agree with the Facility's approach to compliance demonstration for the SO_2 emission limit.

   Facility's response: Domtar Paper agreed with EPA that a compliance demonstration should be made and suggests something similar to what is done for PM_{10}. The formula would be: (the sum of fuel consumed in any 12 months x AP-42 emission factor (for the fuel)) / 2000. This would

clearly demonstrate compliance because the calculation accounts for fuel usage.

Title V Permit Change: Added an annual Compliance Demonstration Method for SO_2.

8. Monitoring and recordkeeping conditions should be required to ensure the hours of operation and annual emission limits are within specified limits.

We rescind this comment based on the Facility's submitted information.

Facility's response: Domtar Paper believes these requirements are already included in the draft Title V permit (see subsections 4 and 5 for this unit).

Title V Permit Change: No change required. Subsections 4 & 5 are sufficient.

Unit 7 - KMM Number 2 wood-waste boiler

1. The boiler is permitted to primarily burn natural gas, but can burn fuel oil as a backup. Based on our discussions with the company it should only be permitted to burn natural gas. However, if the company wants to permit the boiler to burn fuel oil, then there needs to be permit limits to ensure that there is not an increase in sulfur dioxide emissions (SO_2) and particulate matter (PM) emissions. The PM increase may be caused from not operating the control device because of the fuel switch.

We agree with the Facility's analysis and approach to this concern.

Facility's response: Domtar Paper has previously notified the Division for Air Quality that this is a natural gas only fired unit. In a letter to DAQ dated 5/23/05, Domtar Paper requested that all references to fuel oil and fuel oil combustion in this unit be removed from the permit conditions for this unit.

Title V Permit Change: Fuel Oil has been removed as a fuel. There is no secondary fuel listed. Reference to fuel oil and sulfur in the fuel oil was removed from Subsection 1.

2. Permit condition 2.d. sets a nitrogen oxide (NO_X) limit to less than 0.4 pounds per million British thermal units (lbs/mmBTU), based on 401 KAR 59:015, Section 6. However 401 KAR 59:015, Section 6(a) sets a NOX limit of 0.2 lbs/mmBTU while firing gaseous fuel, and Section 6(b) sets a NOx limit of 0.3 lbs/mmBTU while firing liquid fuel.

We agree with the Facility's analysis and approach to this concern.

Facility's response: Domtar Paper agreed with EPA and submitted that since this is a natural gas only fired unit the limitation ought to be 0.2 lbs NO_X/mmBtu.

Title V Permit Change: Since this unit is only burning natural gas, the only NO_X limit is 0.2 lbs/mmBtu as shown in Subsection 2.

3. Permit condition 2.e. sets a volatile organic compound emission limit of less than 99 tons per year. To make condition practically enforceable, there should also be a short term limit (pounds per hour) in addition to the tons per year limit.

   We agree with the Facility's analysis and approach to this concern.

   Facility's response: Domtar Paper noted that the AP-42 emission factor for this unit, 5.5 lbs VOC/million cubic feet of natural gas, is equivalent to 0.0054 lbs/mmBtu (assuming 1015 Btu/cubic foot of natural gas). Multiplying this emission factor by 400 mmBtu/hr (the rated unit capacity) and by 8760 hours per year, the maximum emissions would be approximately 9.49 tons of VOC per year. Since it is impossible to meet or exceed the 99 ton per year limitation even operating full time, Domtar Paper submitted that a short term VOC limit is not needed.

   Title V Permit Change: EPA agreed that a short-term VOC limit is not needed. No permit change necessary.

4. To ensure the company is meeting the emission limits, it is necessary to require the company to demonstrate compliance by conducting a periodic stack test to validate emission factors used in the avoidance limit.

   We agree with the Facility's analysis and approach to this concern and rescind this comment.

   Facility's response: Domtar Paper does not believe this requirement to be necessary since it was shown in the previous comment that the VOC annual emission limit cannot be exceeded firing only natural gas. Other than for the VOC emissions noted above, Domtar Paper could accept one time per permit period.

   Title V Permit Change: Changed Subsection 2 "Compliance Demonstration Method" to include the most recent stack test factors. Performance testing was added for PM/PM_{10}, SO_2 and NO_x, once per permit period to Subsection 3.

Unit 14 - BPM Continuous Digester System

1. Operating Limitations, d., states that the permittee shall collect and treat any condensate to meet the requirements specified under 40 CFR 63.443(a)(1)(i). The condensate regulations are at 40 CFR 63.446.

   In this comment, we were simply requesting a revision to what seemed to be a typographical error in the proposed permit.

   Facility's response: Domtar Paper agreed that condensate collection is required by 40 CFR 63.446, not 40 CFR 63.443.

   Title V Permit Change: The reference to 40 CFR 63.443(a)(1)(i) was changed to 40 CFR 63.466 in Compliance Demonstration Method.

2. For the condensate collection, there should requirements that specified the sources that will be controlled to ensure that the specified amounts of HAPs are collected.

We agree with the Facility's analysis and approach to this concern. Please list the condensate streams that are collected in the permit with associated requirements.

Facility's response: Domtar Paper is utilizing the "named stream" option for condensate collection and recycling for treatment required by 40 CFR 63.446 rather than the other options. Domtar Paper could support the named streams being identified in the permit. The "named streams" option does not require that specified amounts of condensate be collected, but rather that the named streams are continuously collected. Domtar Paper continuously collects these streams. Compliance can be substantiated and documented via the electronic data collection system.

Title V Permit Change: The list of specific streams to be collected and controlled is given in Subsection 1.d.

3. For the condensate collection, the control option should be specified. There should be parameters, and ranges for the parameters for the control device.

   We are doing further research on the Facility's point with respect to the condensate treatment standard in the pulp and paper MACT.

   Facility's response: Domtar Paper uses the recycling option for treatment of condensates. The NCG Incinerator is where high volume low concentration and low volume high concentration non-condensable gases from the recycled condensates are incinerated. Stripper Off-gases (SOG's) are also destroyed in the NCG Incinerator, but we do not consider the Stripper the treatment device. It is used to simply enrich the methanol-containing stream that is the primary fuel for the Incinerator part of the recycle treatment system. The process parameters of the Incinerator are defined in the portion of the Title V permit (Unit 40) that deals with that unit. Domtar Paper does not believe these parameters need to be specified in both places in the permit. Additionally, the No. 3 Lime Kiln and BFB serve as short term backup incineration devices when the Incinerator is unavailable.

   Title V Permit Change: Reference for the condensate recycling option was added to Subsection 1.f and the closed collection system requirements found in 40 CFR 63.466(d) were added at Subsection 1.e. The applicable of parts of 40 CFR 63 Subpart RR were added to the list of applicable regulations.

4. There should be monitoring and recordkeeping to ensure that the required amounts of HAPs are collected over the given averaging time.

   We are doing further research on the Facility's point with respect to the condensate treatment standard in the pulp and paper MACT.

   Facility's response: It is Domtar Paper's understanding that the averaging time and amount-collected requirements do not apply when the named stream option is used. There is continuous monitoring of the collection of the named streams.

Title V Permit Change: No change, since there is no specified amount for listed sources (40 CFR 63.466(b)(1) through (b)(5)). Required monitoring and recordkeeping are found in Subsections 4 and 5.

Unit 22 - BMP Multiple Effect Evaporator System

1. For the condensate collection, there should requirements that specified the sources that will be controlled to ensure that the specified amounts of HAPs are collected.

   We agree with the Facility's analysis and approach to this concern. Please list the condensate streams that are collected in the permit with associated requirements.

   Facility's response: Domtar Paper is utilizing the "named stream" option for condensate collection and recycling for treatment required by 40 CFR 63.446 rather than the other options. Domtar Paper could support the named streams being identified in the permit. The "named streams" option does not require that specified amounts of condensate be collected, but rather that the named streams are continuously collected. Domtar Paper continuously collects these streams. Compliance can be substantiated and documented via the electronic data collection system.

   Title V Permit Change: The list of specific streams to be collected and controlled is given in Subsection 1.d.

2. For the condensate collection, the control option should be specified. There should be parameters, and ranges for the parameters for the control device.

   We are doing further research on the Facility's point with respect to the condensate treatment standard in the pulp and paper MACT.

   Facility's response: Domtar Paper uses the recycling option for treatment of condensates. The NCG Incinerator is where high volume low concentration and low volume high concentration non-condensable gases from the recycled condensates are incinerated. Stripper Off-gases (SOG's) are also destroyed in the NCG Incinerator, but we do not consider the Stripper the treatment device. It is used to simply enrich the methanol-containing stream that is the primary fuel for the Incinerator part of the recycle treatment system. The process parameters of the Incinerator are defined in the portion of the Title V permit (Unit 40) that deals with that unit. Domtar Paper does not believe these parameters need to be specified in both places in the permit. Additionally, the No. 3 Lime Kiln and BFB serve as short term backup incineration devices when the Incinerator is unavailable.

   Title V Permit Change: Reference for the condensate recycling option was added to Subsection 1.f and the closed collection system requirements found in 40 CFR 63.466(d) were added at Subsection 1.e. The applicable of parts of 40 CFR 63 Subpart RR were added to the list of applicable regulations.

3. There should be monitoring and recordkeeping to ensure that the required amounts of HAPs are collected over the given averaging time.

We are doing further research on the Facility's point with respect to the condensate treatment standard in the pulp and paper MACT.

Facility's response: The averaging time requirement does not apply when the named stream option is used. There is continuous monitoring of the collection of the named streams.

Title V Permit Change: No change, since there is no specified amount for listed sources (40 CFR 63.466(b)(1) through (b)(5)). Required monitoring and recordkeeping are found in Subsections 4 and 5.

Unit 27 - BPM Recovery Boiler #3

1. There should be mass emission limits (pounds/hour, tons/year) for NO_X and SO_2.

   We rescind this comment.

   Facility's response: The current concentration limits were established as a result of the BACT analysis associated with the PSD review and permitting process. In 1985, when these limits were developed they were expressed as concentration, rather than mass emission limits. The PM10 limit was expressed as mass emission limit because Domtar Paper (then Willamette) wanted to opt for a PM10 limitation. Since these limits were established by the appropriate process at the time, and thus helped establish BACT, Domtar Paper believes they should remain as is.

   Title V Permit Change: A three-hour averaging time was added in Subsection 2.d and 2.e to match the referenced test methods for NO_X and SO_2. The compliance demonstration methods for mass limits in Subsection 2 were removed since there are no annual mass emission limits for NO_X, TRS and SO_2.

2. There should be periodic testing requirements to validate the emission factors utilized ensure meeting PSD limits for NO_X, PM and SO_2.

   We accept the Facility's offer of a one-time per permit period emission factor test.

   Facility's response: Domtar Paper would accept one time per permit period.

   Title V Permit Change: Performance testing was added for PM/PM_{10}, SO_2, NO_x, and TRS once per permit period to Subsection 3.

3. There should be records to ensure compliance with PSD limits.

   We rescind this comment.

   Facility's response: Domtar Paper is confused why this is needed. We believe this is already specified in Section 2, 4, and 5.

Title V Permit Change: No change, since there is no specified amount for listed sources (40 CFR 63.466(b)(1) through (b)(5)). Required monitoring and recordkeeping are found in Subsections 4 and 5.

Unit 28 - BPM Smelt Tank Boiler #3

1. There should be mass emission limits (pounds/hour, tons/year) for SO_2.

   We rescind this comment.

   Facility's response: The current concentration limits were established as a result of the BACT analysis associated with the PSD review and permitting process. In 1985, when these limits were developed they were expressed as concentration, rather than mass emission limits. The PM10 limit was expressed as mass emission limit because Domtar Paper (then Willamette) wanted to opt for a PM10 limitation. Since these limits were established by the appropriate process at the time, and thus helped establish BACT, Domtar Paper believes they should remain as is.

   Title V Permit Change: No change, since a mass emission limit is not required.

2. There should be periodic testing requirements to validate the emission factors utilized in meeting PSD limits for PM and SO_2.

   We accept the Facility's offer of a one-time per permit period emission factor test.

   Facility's response: Domtar Paper would accept one time per permit period.

   Title V Permit Change: Performance testing was added for PM/PM_{10}, SO_2, and TRS once per permit period to Subsection 3.

Unit 29- BPM Recovery Boiler #4

There should be periodic testing requirements to validate the emission factors utilized to ensure meeting PSD limits for NO_X, PM, CO, VOC and SO_2.

We accept the Facility's offer of a one-time per permit period emission factor test.

Facility's response: Domtar Paper would accept one time per permit period.

Title V Permit Change: Performance testing was added for PM/PM_{10}, SO_2, NO_x, CO, TRS, and VOC, once per permit period to Subsection 3.

Unit 30 - BPM Smelt Tank #4

There should be periodic testing requirements to validate the emission factors utilized to ensure meeting PSD limits for PM, VOC and SO_2.

We accept the Facility's offer of a one-time per permit period emission factor test.

Facility's response: Domtar Paper would accept one time per permit period.

Title V Permit Change: Performance testing was added for PM/PM_{10}, SO_2, TRS, and VOC, once per permit period to Subsection 3.

Unit 36 - BPM Lime Kiln #3

There should be periodic testing requirements to validate the emission factors utilized to ensure meeting PSD limits for PM, CO, NO_X, VOC and SO_2.

We accept the Facility's offer of a one-time per permit period emission factor test.

Facility's response: Domtar Paper would accept one time per permit period.

Title V Permit Change: Performance testing was added for PM/PM_{10}, SO_2, NO_x, CO, TRS, and VOC, once per permit period to Subsection 3.

Unit 42 - BPM BFB Boiler

There should be periodic testing requirements to validate the emission factors utilized to ensure meeting PSD limits for PM, CO, NO_X, VOC and SO_2.

We accept the Facility's offer of a one-time per permit period emission factor test.

Facility's response: Domtar Paper would accept one time per permit period.

Title V Permit Change: Performance testing was added for PM, SO_2, NO_x, CO and VOC, once per permit period to Subsection 3.

General Comments

We would respectfully request that the cite found at Unit 19, condition 4.b, be changed to specify the specific paragraph in the regulation that requires control device parameters for the bleach plant be fixed. The specific scrubber requirements are found at 40 CFR 63.453(c). We would recommend that the permit condition be changed to appear as follows:
"b. Pursuant to 40 CFR 63.453(c), monitor scrubbing liquid pH, scrubbing liquid flow rate, and scrubber inlet pressure (vacuum)."

The Facility and EPA agree on this suggested change.

Facility's response: Domtar Paper agreed to this change.

Title V Permit Change: 40 CFR 63.453 changed to 40 CFR 63.453(c) in Subsection 4.b.

Changes Made to the Title V Permit in Response to Domtar Paper's letter to Region IV EPA, not addressed by EPA's Memorandum Dated 6/2/2005

Unit 14- BPM Continuous Digester System

1. Conditions 5b and 6c refer to the allowable downtime on NCG collection systems (4% for HVLC and 1% for LVHC systems). In accordance with 40 CFR 63.443(e)(3), Domtar Paper desires the third option allowed by EPA to be included in the permit. The regulation allows 4% downtime for *combined* HVLC and LVHC collection systems to the same treatment system or device. Hawesville Operations has a combined collection system.

   Title V Permit Change: Subsection 5.b and 6.c were changed to add the combined collection system option with a 4% allowable downtime.

2. Condition 5e requires a log to track the switching of NCG incineration to alternate control devices. Domtar Paper requests that this requirement be deleted and replace it with the identical requirement in DAQ's response to Domtar Paper's previous comments for Unit 22 (BPM Multiple Effect Evaporator Systems), Condition 5f. See below:

   "The permittee shall maintain a log indicating the date, duration of time, and specific actions taken when the emission is not vented to a specific control device."

   Title V Permit Change: The language in Subsection 5.e was changed to be the same as Unit 22.

Unit 24 or 9-BPM Weak Liquor Tanks

Conditions 5a and 5b refer to requirements from 40 CFR 60.116b Subpart Kb which are no longer applicable to vessels used for process flow through tanks in pulp and paper mills as a result of a settlement between EPA and the American Forest Products Association, Inc. documented in Docket No. 00-1218 in the United States Court of Appeals for the District of Columbia (Federal Register Vol. 68, No. 1999, dated 10/15/2003-see attached). Domtar Paper requests that these requirements be removed from the Title V permit.

As the result of the settlement reached between the American Forest and Paper Association, Incorporated and the U.S. Environmental Protection Agency as documented in Docket No. 00-1218, the Bleached Pulp HD Storage Tanks (EU 50) and the K-2 Paper Machine Stock Preparation Tanks (EU 53) are process flow through tanks and have a true vapor pressure below 3.5kPa and as such are exempt from 40 CFR 60, Subpart Kb. The Methanol tank (EU 48) is also exempt because it meets the other requirement listed in the settlement of having a capacity of less than 20,000 gallons. Therefore, only the recordkeeping provisions of the NSPS apply to EU 48.

Title V Permit Change: Listing of 40 CFR 60 Subpart Kb for Unit 24 or 9 was moved to "Regulations Not Applicable". Subsection 5.a and 5.b of Unit 24 or 9 were deleted. Under Unit 48 "BPM Methanol Storage Tank" the reason for applicability was clarified. No change was made to Units 50 and 53.

Units 27 and 29-BPM Recovery Boiler/Furnace No. 3 and No. 4

Condition 4e3 requires that "…during any period of malfunction of the CMS, the permittee shall once per calendar day survey each emission unit associated with the emission point B-304 for visible emissions. If visible emissions are observed, the permittee shall perform an EPA Method 9 immediately. A log documenting the observations shall be maintained. If a Method 9 cannot be performed, the reason for not performing the test shall be documented".

Domtar Paper respectfully requests that this requirement be removed. Domtar Paper does not see the need for this requirement because 40 CFR 60.284 specifically allows for 6% excess emissions (opacities greater than the permit limit) and 2% downtime on the COMS. Additionally, the specific date, time and reason for all exceedances are already being provided to the Division with the quarterly Excess Emission Report as required by 401 KAR 59:005. Please note that the historical average excess emissions since January 1, 2003 has been 0.63% and 0.88% respectively,

Title V Permit Change: Subsection 4.e.(2) of Unit 27 and Subsection 4.e.(2) of Unit 29 have been changed to record the COMS downtime. The division did not find a 2% downtime on the COMS in the regulation as commented by Domtar Paper. If visible emissions are observed during the COMS downtime, the permittee shall perform an EPA Method 9 immediately.

Units 27, 29, and 36 - BPM Recovery Boiler/Furnace Nos. 3 & 4 and BPM Lime Kiln No. 3

Condition 6c (now 6a) for emission Unit 27 (BPM Recovery Furnace/Boiler No. 3) requires semiannual reporting of excess TRS emissions as does Condition 6c (now 6a) for Emission Unit No. 36 (BPM Lime Kiln No.3), however Condition 6b (now 6a) for Unit 29 (BPM Recovery Furnace/Boiler No. 4) requires quarterly reporting. 40 CFR 60.284(d) specifies semiannual report of excess emissions while 401 KAR 59:005(3)(e)(3) requires quarterly reporting. Domtar Paper requests the reporting requirements for TRS excess emission reporting be consistent throughout the Title V permit with either 40 CFR 60.284(d) or 401 KAR 59:005(3)(e)(3).

Title V Permit Change: Since the source specific federal regulation overrides the general NSPS requirements in 40 CFR 60.7(c) and the specific NSPS [40 CFR 60.284(d)] requires semiannual reporting; the quarterly reporting in Subsection 6.a.(1) & a.(2) of Unit 29 have been changed to semiannual. Excessive HAP emission reporting under 40 CFR 63 Subpart MM has been added to Subsection 6 of Unit 29 and also to Subsection 6 of Unit 27.

Unit 33-BPM Slaker No. 3

The emission point is to be observed for visible emissions everyday for six months. If no emissions are visible during the six-month period the emission survey is reduced to once per week. The clarification Domtar Paper requests results from the fact that wet scrubbers always have a visible attached steam plume, making the detection of visible emissions more difficult. It is our understanding that the presence of an attached steam plume does not constitute evidence of visible emissions. Method 9 states that:

2.3.1 Attached Steam Plumes. When condensed water vapor is present within the plume as it emerges from the emission outlet, opacity observations shall be made beyond the point in the

plume at which condensed water vapor is no longer visible. The observer shall record the approximate distance from the emission outlet to the point in the plume at which the observations are made.

Therefore, in accordance with Method 9, if particulate is observed after the attached steam plume is no longer visible, Domtar Paper will perform a Method 9 as soon as practicable.

Title V Permit Change: The words ", not including condensed water vapor" were added to Subsection 4.b.

Unit 37-BPM Lime Silo

Subsection 4.b, added phrase when unit is operating because there is no possibility of opacity if the mill is down and to make the language consistent with Unit 54.

Unit 38-BPM Petroleum Coke Storage Silo

Subsection 4.b, added phrase when unit is operating because there is no possibility of opacity if the mill is down and to make the language consistent with Unit 54.

Unit 40-BPM NCG/SOG Incinerator

1. Condition 4d3 (now 4e3) requires that during periods of malfunction this emission point be surveyed for the presence of visible emissions and perform a Method 9 if visible emissions are present. Domtar Paper requests this requirement be deleted because there are no underlying applicable requirements, i.e., no opacity limit required by BACT, or listed in Sections 1, 2 or 3. Thus, there are no clear limits with which to establish compliance. Additionally, the wet scrubber process parameters are continuously monitored allowing a malfunction to be more fully characterized and on a timelier basis than a visual observation would provide. The elimination of this requirement would also make the requirements for this wet scrubber consistent with the requirements for other wet scrubbers that are continuously monitored like the BPM Smelt Tank No.3 and Smelt Tank No. 4. Neither of these emission units has this requirement listed.

   Title V Permit Change: Subsection 4.e.(3) was deleted.

2. Conditions 5c (now 5b) and 6c (now 6b) refer to the allowable downtime on NCG collection systems (4% for HVLC and 1% for LVHC systems). In accordance with 40 CFR 63.443(e)(3), Domtar Paper desires the third option allowed by EPA to be included in the permit. The regulation allows 4% downtime for *combined* HVLC and LVHC collection systems to the same treatment system or device. Hawesville Operations has a combined collection system.

   Title V Permit Change: Subsection 5.b and 6.b were changed to add the combined collection system option with a 4% allowable downtime.

Unit42-BPM BFB Boiler

Condition 6a requires that the 24-hour NO_X rolling average in excess of the standard be reported semiannually. It is Domtar Paper's understanding that 40 CFR 60.49b(h)(ii)(4) requires that the

30-day rolling average in excess of the standard be reported instead of the 24-hour rolling average. Additionally, 401 KAR 59:005(3)(e)(3) requires quarterly reporting of excess emissions rather than semiannually. Domtar Paper requests that the permit be changed to reflect these changes. If these understandings are incorrect please cite the appropriate regulation so that we can correct our internal work instructions.

Title V Permit Change: Subsection 4.b and Subsection 6.a have been changed by replacing "24-hour" NO_X average with "30-day" NO_X average. This change is pursuant to 40 CFR 60.44b(d), 60.46b(e), and 60.49b(h)(4). Subsection 2.e was also changed to reflect the 30-day average, and subsection 6.a has quarterly 30-day NO_X reporting requirement.

Unit 48-BPM Methanol Storage Tank

Conditions 5a and 5b refer to requirements from 40 CFR 60.116b Subpart Kb which is no longer applicable. Domtar Paper requests that the recordkeeping requirements also be removed from the Title V permit since this unit is exempt from Subpart Kb as stated in Federal Register Vol. 68, No. 1999, dated 10/15/2003.

Title V Permit Change: Since the storage capacity in less than 75 m^3 (19,812 gallons), this tank is only subject to the capacity recordkeeping requirements.

Section I - Compliance Schedule

1. Paragraph two requires Domtar Paper to establish control device operating parameters (acceptable ranges) for those not reported in the Title V operating permit application. To prevent the possibility of a parameter being inadvertently left out, Domtar Paper requests the DAQ to identify which control devices these parameters need to be established for, and be listed in this section of the permit.

   Title V Permit Change: There is no compliance schedule. The requirement has been deleted.

2. The remainder of Section I consists of a compliance schedule for Domtar Paper. A compliance schedule implies that requirements still remain to be completed. However, all of the items are either not applicable to Domtar Paper or have already been completed. Therefore, Domtar Paper requests this section be deleted.

   Title V Permit Change: The Compliance Schedule provided in Section I has been deleted, since the compliance of all applicable requirements in 40 CFR 63 Subpart S have been achieved.

Changes Made to the Title V Permit in Order to Update Section C with New Insignificant Activities

Title V Permit Change: The following insignificant activities have been added to Section C of the Title V permit.

(1) The Burning of primary clarifier sludge in the BFB boiler
(2) Pulp Dryer Steam/Condensate Vent
(3) H-1 Vacuum Pumps
(4) Dregs Filter Hood Exhaust Fan
(5) Mud Filter Hood Exhaust Fan

Changes Made to the Title V Permit in Order to Incorporate New Potentially Applicable NESHAP Regulations

1. The NESHAP regulation for Industrials, Commercial and Institutional Boilers and Process Heaters (40 CFR 63 Subpart DDDDD) is now final and these regulated emission units are contained in this Title V operating permit. The following emission units are subject to 40 CFR 63 Subpart DDDDD.

   (1) Unit 6 - KMM Package Boiler
   (2) Unit 7 - KMM No. 2 Boiler
   (3) Unit 42 - BPM BFB Boiler
   (4) Unit 46 - BPM No. 2 Power Boiler

   Title V Permit Change: Emission Units 6, 7, and 46 are all standby boilers. Pursuant to 40 CFR 63.7506(b) and 63.7575 a federally enforceable operational limitation has been added to Subsection 1 for each of these boilers to limit the capacity factor to only 10 percent. Therefore these three boilers are now only subject to the initial notification requirement and capacity factor recordkeeping.

   Title V Permit Change: Emission Units 42 - BPM BFB Boiler is a wood and natural gas fired boiler. This emission unit is subject to numerous requirements under 40 CFR 63 Subpart DDDDD. Additional requirements have been added to each subsection under this emission unit.

2. The NESHAP regulation for Paper and Other Web Coating (40 CFR 63 Subpart JJJJ) is final and these potentially regulated emission units are contained in this Title V operating permit. The following emission units are potentially subject to 40 CFR 63 Subpart JJJJ.

   (1) Unit 43 - BPM Bleach Mill Pulp Dryer System
   (2) Unit 51 - K-1 Paper Machine
   (3) Unit 52 - K-2 Paper Machine

   Title V Permit Change: This regulation has been added to the "Regulations Not Applicable" list for each of the above listed emission units. All materials added to the paper or pulp sheet are added before the paper or pulp sheet meets the definition of a web under 40 CFR 63.3310. To be a web the material or sheet must have sufficient strength and flexibility to be rolled.

SOURCE DESCRIPTION:

The Domtar Paper Company (formerly Willamette Industries and Weyerhaeuser Company) - Hawesville Operations is an integrated pulp and paper mill utilizing the standard kraft process for the manufacturing of bleached pulp from wood chips. The Hawesville Operations originally consisted of three areas: the Kentucky Medium Mill (**KMM**, semi-chemical mill), the Bleach Pulp Mill (**BPM**, kraft mill), and the Fine Paper Mill (**FPM**, specialty paper mill). However, on August 14, 2002, the KMM ceased operations and now the Hawesville Operations consist of only the BPM and FPM. On September 26, 2002, the Division received official notice of closure of the KMM. Further information was received on January 2, 2003, regarding emission reductions due to closure of the KMM. Latest information regarding the source was received on October 6, 2003. The Hawesville Operations are located at 58 Wescor Road in Hawesville, Hancock County, Kentucky. Table 1 identifies the facilities at these mills.

The standard kraft process used at the BPM is described as follows:

Hardwood chips used to produce virgin fiber as received at the BPM via truck and or railcar, then stored in piles. When chips are ready to be used, they are transported from the piles via conveyor for screening, where the oversized and small material is removed. The screened chip supply is then sent to a continuous digester (**Emission Unit, EU-14**) in the pulp mill. The digester cooks the chips under elevated temperature and pressure in an alkaline solution of sodium sulfide (Na_2S) and sodium hydroxide (NaOH), referred to as "white liquor". During the cooking cycle, air trapped within the chips and gases formed during cooking are relieved continually. Uncondensed relief gases are cooled and incinerated. Upon completion of the cooking cycle in the continuous digester, the contents of the digester (consisting of the pulp and spent cooking liquor, or "black liquor") are transferred to a diffusion washer system, where the pulp temperature and pressure return to atmospheric levels. The gases leaving the diffusion washer and blow tank are collected and incinerated.

After screening and washing, the pulp is then transferred to high-density storage, while the brownstock washer filtrate ("weak black liquor") is sent to the recovery area. The pulp is bleached in two multistage bleach plants (**EU-19, EU-20**) using chlorine dioxide (ClO_2), sodium hydroxide (NaOH), hydrogen peroxide (H_2O_2) and oxygen as bleaching agents. The fully bleached pulp is stored in high-density (thickened) storage vessels. From the bleached high-density storage, the pulp is either processed into sheets that are dried, baled and sold as product (Market Pulp) or transferred to the FPM to be used in manufacturing fine paper products.

In the recovery area, the weak black liquor is transferred from storage tanks (**EU-24, EU-9**) and is concentrated to approximately 75 to 80% solids in multiple effect evaporators (**EU-22**). Any non-condensable gases (NCGs), which are released during this process, are incinerated in the NCG Incinerator (**EU-40**) at the site or in existing lime kilns (**EU-36**). The foul condensate from the evaporators is steam stripped prior to its reuse. The NCGs from the stripper, referred to as stripper off-gases (SOGs), are also incinerated.

Once the concentration is complete, the "heavy" black liquor is combusted in two recovery boilers (**EU-27, EU-29**), which produce steam for the mill. The smelt produced from burning the black liquor flows from the boilers into two smelt dissolving tanks (**EU-28, EU-30**), where it is quenched with weak wash to form "green liquor", an aqueous solution of sodium carbonate (Na_2CO_3) and

sodium sulfide (Na_2S). The green liquor is then transferred to a slaker (**EU-33**), where calcium oxide (CaO) is added to covert the sodium carbonate (Na_2CO_3) to sodium hydroxide (NaOH). The resulting solution is an alkaline solution composed of white liquor and lime mud precipitate (calcium carbonate, $CaCO_3$). The white liquor is then recycled back to the pulp mill area for cooking in the digesters. The lime mud precipitate is washed, dried, and then burned in a lime kiln at the mill to produce reburned lime (calcium oxide, CaO).

Pulp produced at the BPM is transferred to one of two paper machines (**EU-51, EU-52**) where it is sometimes blended with purchased softwood pulp, depending upon grade requirements. Two paper machines produce various grades of fine paper. Refined pulp stock is mixed with machine white water and blended with additives added to produce specific paper grades. Various chemicals (including starch) and dyes are added to the paper to form different types of specialty papers. The stock mixture is then distributed on to the Fourdrinier wire, where the paper sheet is formed. Steam dryers (**EU-43**) dry the paper and produce the final product.

Steam is supplied to the entire complex via No. 3 and No. 4 Recovery Boilers (**EU-27 and EU29**), two Power Boilers (**EU-6, EU-46**), the No. 2 Backup Boiler (**EU-7**) and the BioFuel Boiler (BFB, **EU-42**). Since the closure of the KMM, the No. 2 Hogged Fuel Boiler burns only natural gas. The two Power Boilers and the No. 2 Hogged Fuel Boiler are backup or standby boilers that are used when the BFB Boiler is out of service. The BFB Boiler fires both wood waste and natural gas simultaneously.

Domtar Paper Company - Hawesville Operations has one wastewater treatment plant (**EU-41**) to treat the process water before discharge into the Ohio River. The treatment plant consists of a primary clarifier, settling ponds, sludge press and an aeration basin. The one is used to treat the combined effluent from the BPM and FPM. A sanitary sewage treatment plant for the entire complex utilizes the same outfall as the BPM / Fine Paper treatment plant.

TABLE 1

DOMTAR PAPER COMPANY - HAWESVILLE OPERATIONS

EMISSION UNIT	TITLE V DESCRIPTION	COMMENTS
06	KMM Package Boiler	Standby Boiler
07	KMM No. 2 Backup Boiler	Standby Boiler, Only Natural Gas Fired
08	KMM Wastewater Treatment	Closed February 2005
09	KMM Weak Liquor Tank	A temporary storage tank
10	KMM Gasoline Storage Tank	
11	Unpaved Mill Roads	
12	Paved Mill Roads	
14	BPM Continuous Digester System	Emissions Vent to NCG System
19	BPM No. 2 Bleach Plant	
20	BPM No. 3 Bleach Plant	
21	BPM Chlorine Dioxide Generator	
22	BPM Multiple Effect Evaporators	Emissions Vent to NCG System
23	BPM Recovery Area Strong and Heavy Black Liquor Tanks	Emissions Vent to NCG System
24	BPM Recovery / Weak Liquor Tanks	Vent to NCG System
27	BPM Recovery Boiler / Furnace No. 3	SCC Units: ton BLS/yr
28	BPM Smelt Tank No. 3	SCC Units: ton BLS/yr
29	BPM Recovery Boiler / Furnace No. 4	SCC Units: ton BLS/yr
30	BPM Smelt Tank No. 4	
31	BPM Causticizing Tanks	
32	BPM Slaker No. 2	Retired from service but not removed
33	BPM Slaker No. 3	SCC Units: ton CaO/yr
35	BPM Lime Kiln No. 2	Retired from service but not removed
36	BPM Lime Kiln No. 3	SCC Units: ton BLS/yr
37	BPM Lime Silo	165,219 TPY
38	BPM Petroleum Coke Silo	
39	BPM Green Liquor Clarifiers	SCC Units: ton CaO/yr
40	BPM NCG/SOG Incinerator	SCC Units: lb/ODTP
41	BPM Wastewater Treatment	Increased rate
42	BPM BFB Boiler	
43	BPM Pulp Dryer System	
44	BPM Chip and Wood Fuel Unloading	
45	BPM Chip and Wood Fuel Handling	Increased rates
46	BPM Power Boiler No. 2	
47	BPM Gasoline Storage Tank	
48	BPM Methanol Storage Tank	
49	BPM Brown Stock HD Storage	Increased rates
50	BPM Bleached Pulp HD Storage	Increased rates
51	K-1 Paper Machine	Increased rates
52	K-2 Paper Machine	Increased rates
53	K-1 & 2 Stock Preparation	
54	K-1 & 2 Starch Silos	

COMMENTS:

Table 2, below, identifies the emission unit (emission point), emission unit description, pollutant, control device, and efficiency.

Table 2

Emission Unit (EP)	Emission Unit Description	Pollutant	Control Device	Efficiency (%)
06 (C-40)	KMM Package Boiler - Standby Boiler	TSP PM_{10} SO_2 NO_X CO VOC HAPs	None	None
07 (C-50)	No. 2 Backup Boiler - Standby Boiler Only Natural Gas Fired	TSP PM_{10} SO_2 NO_X CO VOC HAPs	None	None
09 (C-70)	Weak Liquor Tank - Temporary Use	TRS VOC HAPs	None	None
10 (C-80)	KMM Gasoline Storage Tanks	VOC	None	None
11 (C-90)	Unpaved Roads	TSP PM_{10}	None	None
12 (C-100)	Paved Roads	TSP PM_{10}	None	None
14 (B-1)	Continuous Digester System	HAPs	LVHC: NCG / SOG Incinerator or the No. 3 Lime Kiln HVLC: NCG / SOG Incinerator or the Bio-fuel Boiler (BFB)	> 99 or to meet or exceed MACT requirements

19 (B-100)	No. 2 Bleach Plant	VOC HAPs	Bleach Plant Scrubber	> 99 or to meet or exceed MACT requirements
20 (B-100)	No. 3 Bleach Plant	VOC HAPs	Bleach Plant Scrubber	> 99 or to meet or exceed MACT requirements
21 (B-100)	ClO_2 Generator	VOC HAPs	Bleach Plant Scrubber	> 99 or to meet or exceed MACT requirements
22 (B-700)	Multiple Effect Evaporator System	HAPs	LVHC(s) and SOG(s): NCG / SOG Incinerator, No. 3 Lime Kiln, BFB, or Recovery Boiler	> 99 or to meet or exceed MACT requirements
23 (B-301, 303-309)	Recovery Area Strong and Heavy Black Liquor Tanks	HAPs	NCG / SOC Incinerator or the Bio-fuel Boiler (BFB)	> 99 or to meet or exceed MACT requirements
24 (B-304)	Recovery / Weak Liquor Tanks	TRS VOC HAPs	NCG / SOC Incinerator or the Bio-fuel Boiler (BFB)	> 99 or to meet or exceed MACT requirements
27 (B-430)	Recovery Boiler No. 3	TSP PM_{10}	Electrostatic Precipitator	> 99 or to meet or exceed MACT requirements
		SO_2 NO_X CO TRS VOC HAPs	None	None
28 (B-435)	Smelt Tank No. 3	TSP PM_{10}	Scrubber	> 99 or to meet or exceed MACT requirements
		SO_2 TRS VOC HAPs	None	None
29 (B-440)	Recovery Boiler No. 4	TSP PM_{10}	Electrostatic Precipitator	> 99 or to meet or exceed MACT requirements

		SO_2 NO_X CO TRS VOC HAPs	None	None
30 (B-445)	Smelt Tank No. 4	TSP PM_{10}	Scrubber	> 99 or to meet or exceed MACT requirements
		SO_2 TRS VOC HAPs	None	None
31 (B-501, 502-508)	Causticizing Area	TRS VOC HAPs	None	None
33 (B-530)	Slaker No. 3	TSP PM_{10} HAPs	Wet Scrubber	95
36 (B-630)	Lime Kiln No. 3	TSP PM_{10}	Electrostatic Precipitator	> 99 or to meet or exceed MACT requirements
		SO_2 NO_X CO TRS VOC HAPs	None	None
37 (B-650)	Lime Silo Unloading	TSP PM_{10}	Fabric Filter	99
38 (B-660)	Coke Silo Unloading	TSP PM_{10}	Fabric Filter	99
39 (B-680, 681)	Green Liquor Clarifiers	TRS VOC HAPs	None	None
40 (B-700)	NCG / SOG Incinerator	TSP PM_{10}	Scrubber	> 99 or to meet or exceed MACT requirements

		SO_2		95
		NO_X CO TRS VOC HAPs	None	None
41 (B-800)	Wastewater Treatment	VOC HAPs	None	None
42 (B-900)	BFB Boiler 90% Hogged Fuel 10% Natural Gas	TSP PM_{10}	Electrostatic Precipitator	> 99 or to meet or exceed MACT requirements
		SO_2 NO_X CO VOC HAPs	None	None
43 (B-1000, 1001 - 1005)	Pulp Dryer System	VOC HAPs	None	None
44 (B-1100, 1101)	Chip and Wood Fuel Unloading	TSP PM_{10}	None	None
45 (B-1200, 1201-1202)	Chip and Wood Fuel Handling	TSP PM_{10}	None	None
46 (B-1320)	Power Boiler	TSP PM_{10} SO_2 NO_X CO VOC HAPs	None	None
47 (B-1400)	Gasoline Storage Tank	VOC	None	None
48 (B-1500)	Methanol Storage Tank	VOC HAPs	None	None
49 (B-1600, 1601)	Brown Stock HD Storage	TRS VOC HAPs	None	None

50 (B-1700, 1701 – 1703)	Bleached Pulp HD Storage	TRS VOC HAPs	None	None
51 (F-1, 2-10)	K-1 Paper Machine	VOC HAPs	None	None
52 (F-20, 21-29)	K-2 Paper Machine	VOC HAPs	None	None
53 (F-30, 31-34)	K-2 Stock Preparation	VOC HAPs	None	None
54 (F-40, 41-43)	Starch Silos	TSP PM_{10}	None	None

In the past this pulp and paper mill was given two different identification numbers: 021-091-00002 and 021-091-00005, Kentucky Medium Mill (KMM) and Bleach Pulp Mill (BPM), respectively. For Title V operating permit purposes all mills and emission units have been combined into identification number 021-091-00005.

Storage tank emissions are based on the latest storage tanks measured emission factors from National Council for Air and Stream Improvement (NCASI). Emission factors are based on AP-42, NCASI emission factors, actual stack tests at the source, or a material balance. Emission factors for emission units subject to the BACT requirements pursuant to 401 KAR 51:017 have been established based on stack test data.

In a letter received June 27, 2002, the Division was notified that the PCC Plant - Lime Unloading and Process operations should be added as Insignificant Activities. Please refer to the Title V operating permit. On October 21, 2002, the Division received notice regarding the sulfur dioxide limit for the BFB Boiler, EU-42, log # 55260.

The Hawesville Operations were previously own by Willamette Industries, Inc., however on June 11, 2002 the Division received a name change application (Log # 54706). This application for change in ownership to Weyerhaeuser Company was combined with the Title V operating permit application, Permit # V-04-012 (Log # 51211). The Title V permit application was received on December 15, 1999, and logged complete on October 6, 2003. Though the proposed permit issued on April 15, 2005, significant comments were received from EPA on the proposed permit. The modification of Title V permit (V-04-012 R1) application was received on October 4, 2005, and logged complete on July 15, 2006. In addition, the application for a name/ownership change was received on February 12, 2007. The Division has updated the permit to reflect the requested name change from Weyerhaeuser Company, LLC to Domtar Paper Company, LLC.

The most stringent requirement has been chosen between BACT and MACT standards, for example please refer to Lime Kiln #3 (EU-36). In this case, the more stringent for PM is the MACT standard. However, the BACT standard is also listed on the Title V operating permit since PM, PM_{10}, and annual TPY are listed, and also until the MACT requirements became effective. This is also the case for the NCG/SOG Incinerator (EU-40) and the Biofuel Boiler (EU-42).

The following Log numbers have been combined into this Title V operating permit: 51211/G424, 51240/G455, 52219, 52324, 52410, 52438, 52440, 53535, 51956, 55260, and 56273. Pursuant to Log # 56273 there will not be production process increases, and emissions of sulfur dioxide (SO_2) and TRS will not increase. The Mill will not implement an acid rain phase II program as submitted under log # 53535.

Volatile organic compound emissions at EU-7, KMM No. 2 Hogged Fuel (natural gas fired) Boiler has an allowable of 99 TPY that is based on an EPA, approved accommodative SIP developed in 1980. The construction permit for this Boiler was issued April 3, 1980, Permit # C-80-024. The Boiler was subject to the 1979 version of the PSD regulation, and the above limit was allowed for the Boiler.

Past PSD Review - Executive Summary

Please refer to the Title V discussion for the facilities that are in operation at the Domtar Paper Hawesville Operations.

On May 6, 1996, Willamette Industries (now Domtar Paper Company) was issued a revised federally enforceable PSD permit F-96-003 (Revision 1) for construction of the following emissions units: Recovery Furnace #4 (EU-29), New Lime Kiln #3 (EU-36), Hog Fuel Boiler (BFB) #3 (EU-42), NCG/SOG Incinerator (EU-40), Smelt Tank #4 (EU-30), and Steam Stripper for Multiple Effects Evaporators (MEEs) (EU-22). The permit provided for the Best Available Control Technology (BACT) maximum allowable emissions limits for the NCG Incinerator emission rates to be specified in units of pounds per hour and tons per year.

Stack tests were performed May 20, 1999, on the emissions units listed above. Under conditions of the PSD permit, it was determined that the NCG/SOG Incinerator could not meet the BACT nitrogen oxides (NO_X) and sulfur oxides (SO_2) requirements. The manufacturer, A. H Lundberg Associates, Incorporated, of the incinerator made refinements and adjustments. However, in a letter dated June 30, 1999, the Manufacturer indicated the NCG Incinerator installed by them was operating as designed and its emissions were at or below similar control equipment used at other kraft pulp mills, and it was the manufacture's opinion that the permit limitations for NO_X and SO_2 were unachievable.

After review and analysis of the information for the NCG Incinerator, it was determined that information per the permit application had been based and processed on softwood pulp mills. Indications were and have since been verified that hardwoods contain significant more quantities of nitrogen than softwoods. It seems that the NCG Incinerator could not compensate for the increased quantities of nitrogen in the hardwoods processed at the Hawesville Operations.

After discussions with the Division on November 5, 1999, Domtar Paper 's management made the decision to submit a revised PSD construction permit application with revised, updated, and achievable emission limits for the NCG/SOG Incinerator. The application provided a revised BACT analysis, which established revised maximum allowable permit emission limits for PM/PM_{10}, NO_X, and SO_2. To avoid a PSD review of the PM/PM_{10} emission increases, Domtar Paper used allowable emissions limits from the previously permitted Hogged-fueled Boiler #3 (Bio-boiler) and Lime Kiln #3 to contemporaneously net any PM/PM_{10} emission increases for the NCG Incinerator. Permit V-04-012 established revised allowable emissions limits for the Hogged-fueled Boiler #3, Lime Kiln #3, and NCG Incinerator.

OTHER CHANGES:

The processing rates of EU 44 (BPM Chips & Wood Fuel Unloading) and EU 45 (BPM Chips & Wood Fuel Handling) are not 350 tons/hr but 300 tons/hr and 275 tons/hr based on the PSD Permit F-96-003 R1, respectively.

In EU 46 (BPM No. 2 Power Boiler), PM emissions limitation is not 0.275 lbs/mmBtu but 0.295 lbs/mmBtu based on the 401 KAR 61:015, Section 4(1). In addition, SO_2 emissions limitation is not 3.6 lbs/mmBtu but 3.7 lbs/mmBtu based on the 401 KAR 61:015, Section 5.

The Division received a Section 502(b)(10) change application for Recovery Furnace #3 (EU-27) on December 14, 2006. This change was incorporated into permit V-04-012 R1.

Applicable Regulations:

1. 401 KAR 51:017, *Prevention of significant deterioration of air quality (PSD)*, is applicable to the following emission points.

   - Unit 27 - BPM Recovery Boiler/Furnace No. 3
   - Unit 28 - BPM Smelt Tank No. 3
   - Unit 29 - BPM Recovery Boiler/Furnace No. 4
   - Unit 30 - BPM Smelt Tank No. 4
   - Unit 36 - BPM Lime Kiln No. 3
   - Unit 40 - BPM NCG/SOG Incinerator
   - Unit 42 - BPM BFB Boiler
   - Unit 44 - BPM Chips & Wood Fuel Unloading
   - Unit 45 - BPM Chips & Wood Fuel Handling

2. 401 KAR 59:010, *New process operations*, is applicable to the following emission points.

   - Unit 33 - BPM Slaker No. 3
   - Unit 37 - BPM Lime Silos
   - Unit 38 - BPM Petroleum Coke Storage Silo
   - Unit 44 - BPM Chips & Wood Fuel Unloading
   - Unit 45 - BPM Chips & Wood Fuel Handling
   - Unit 54 - K-1&2 Starch Silos

3. 401 KAR 59:015, *New indirect heat exchangers*, is applicable to the following emission points.

   - Unit 6 - KMM Package Boiler
   - Unit 7 - KMM No. 2 Backup Boiler
   - Unit 42 - BPM BFB Boiler

4. 401 KAR 59:050, *New storage vessels for petroleum liquids*, is applicable to the following emission points.

    - Unit 10 - KMM Gasoline Storage Tank
    - Unit 47 - BPM Gasoline Storage Tank

5. 401 KAR 60:005 (40 CFR Subpart Db), *Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units*, is applicable to the following emission points.

    - Unit 6 - KMM Package Boiler
    - Unit 42 - BPM BFB Boiler

6. 401 KAR 60:005 (40 CFR 60 Subpart Kb) *Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984,* is applicable to the following emission point.

    - Unit 48 - BPM Methanol Storage Tank

7. 401 KAR 60:005 (40 CFR 60 Subpart BB), *Standards of Performance for Kraft Pulp Mills*, is applicable to the following emission points.

    - Unit 14 - BPM Continuous Digester System
    - Unit 22 - BPM Multiple Effect Evaporator System
    - Unit 27 - BPM Recovery Boiler/Furnace No. 3
    - Unit 28 - BPM Smelt Tank No. 3
    - Unit 29 - BPM Recovery Boiler/Furnace No. 4
    - Unit 30 - BPM Smelt Tank No. 4
    - Unit 36 - BPM Lime Kiln No. 3
    - Unit 40 - BPM NCG/SOG Incinerator

8. 401 KAR 61:015, *Existing indirect heat exchangers*, is applicable to the following emission point.

    - Unit 46 - BPM No. 2 Power Boiler

9. 401 KAR 63:002 (40 CFR 63 Subpart S), *National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry*, is applicable to the following emission points.

    - Unit 14 - BPM Continuous Digester System
    - Unit 19 - BPM No. 2 Bleach Plant
    - Unit 20 - BPM No. 3 Bleach Plant
    - Unit 21 - BPM ClO_2 Generator
    - Unit 22 - BPM Multiple Effect Evaporator System
    - Unit 24 or 9 - BPM Weak Liquor Tanks
    - Unit 40 - BPM NCG/SOG Incinerator

10. 401 KAR 63:002 (40 CFR 63 Subpart MM), *National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semichemical Pulp Mills*, is applicable to the following emission points.

    - Unit 27 - BPM Recovery Boiler/Furnace No. 3 Compliance Testing Date: 4/7/04
    - Unit 28 - BPM Smelt Tank No. 3 Compliance Testing Date: 4/29/04
    - Unit 29 - BPM Recovery Boiler/Furnace No. 4 Compliance Testing Date: 12/16/04
    - Unit 30 - BPM Smelt Tank No. 4 Compliance Testing Date: 12/15/04
    - Unit 36 - BPM Lime Kiln No. 3 Compliance Testing Date: 6/3/04

11. 401 KAR 63:002 (40 CFR 63 Subpart RR), *National Emission Standards for Individual Drain System*, is applicable to the following emission points.

    - Unit 14 - BPM Continuous Digester System
    - Unit 22 - BPM Multiple Effect Evaporator System

12. 40 CFR 63 Subpart EEEE, *National Emission Standard for Hazardous Air Pollutant: Organic Liquid Distribution (non-gasoline)*, is applicable to the following emission point.

    - Unit 48 - BPM Methanol Storage Tank

13. 401 KAR 63:002 (40 CFR 63 Subpart DDDDD), *National Emission Standards for Hazardous Air Pollutants for Industrials, Commercial and Institutional Boilers and Process Heaters*, is applicable to the following emission points.

    - Unit 6 - KMM Package Boiler
    - Unit 7 - KMM No. 2 Backup Boiler
    - Unit 42 - BPM BFB Boiler
    - Unit 46 - BPM No. 2 Power Boiler

14. 401 KAR 63:010, *Fugitive emissions*, is applicable to the following emission points.

    - Unit 11 - Unpaved Mill Roads
    - Unit 12 - Paved Mill Roads

15. 401 KAR 63:020, *Potentially hazardous matter or toxic substances*, is applicable to the following emission points.

    - Unit 31 - BPM Causticizing Tanks
    - Unit 39 - BPM Green Liquor Clarifiers
    - Unit 41 - BPM Processwater (Wastewater) Treatment
    - Unit 43 - BPM Bleach Mill Pulp Dryer System
    - Unit 48 - BPM Methanol Storage Tank
    - Unit 49 - BPM Brown Stock HD Storage
    - Unit 50 - BPM Bleached Pulp HD Storage
    - Unit 51 - K-1 Paper Machine
    - Unit 52 - K-2 Paper Machine
    - Unit 53 - K-1&2 Paper Machine Stock Preparation

Regulations Not Applicable:

- Unit 6 - KMM Package Boiler

  401 KAR 51:017, *Prevention of significant deterioration of air quality (PSD)*, emissions rate limits of particulate matter (PM/PM_{10}), sulfur dioxide (SO_2), and nitrogen oxides (NO_x) taken to preclude PSD significance emission increase levels.

  401 KAR 60:005 (40 CFR Subpart Dc), *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units,* is not applicable since the boiler was constructed prior to June 9, 1989.

- Unit 7 - KMM No. 2 Backup Boiler

  401 KAR 51:017, *Prevention of significant deterioration of air quality (PSD)*, emissions rate limits of particulate matter (PM/PM_{10}), sulfur dioxide (SO_2), nitrogen oxides (NO_x), and VOC taken to preclude PSD significance emission increase levels.

  401 KAR 60:005 (40 CFR Subpart D), *Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced after August 17, 1971*, is not applicable since this boiler is not the fossil-fuel-fired stream generating unit.

  401 KAR 60:005 (40 CFR Subpart Db) *Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units*, is not applicable since this boiler was constructed, modified, or reconstructed prior to June 19, 1984.

  401 KAR 60:005 (40 CFR Subpart Dc) *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*, is not applicable since this boiler was constructed prior to June 9, 1989.

  401 KAR 61:015, *Existing indirect heat exchangers*, is not applicable since this boiler was commenced after August 17, 1971.

- Unit 10 - KMM Gasoline Storage Tank
- Unit 47 - BPM Gasoline Storage Tank

  401 KAR 60:005 (40 CFR Subpart K), *Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978.*

  401 KAR 60:005 (40 CFR 60 Subpart Ka) *Standards of Performance for Storage Vessels for Petroleum Liquids for which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and prior to July 23, 1984.*

  401 KAR 60:005 (40 CFR 60 Subpart Kb) *Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984*, is not applicable since the capacity is not equal to or greater than 75 m^3 (19,812 gallons).

401 KAR 61:050, *Existing storage vessels for petroleum liquids*, is not applicable since this affected facility was commenced after April 9, 1972.

- Unit 14 - BPM Continuous Digester System
- Unit 36 - BPM Lime Kiln No. 3
- Unit 40 - BPM NCG/SOG Incinerator

401 KAR 59:080, *New kraft (sulfate) pulp mills*, is not applicable since this affected facility was not commenced before September 24, 1976.

401 KAR 61:025, *Existing kraft (sulfate) pulp mills*, is not applicable since this affected facility was not commenced before April 9, 1972.

- Unit 22 - BPM Multiple Effect Evaporator System

401 KAR 59:080, *New kraft (sulfate) pulp mills*, is not applicable since this affected facility was not commenced before September 24, 1976.

- Unit 23 - BPM Recovery Area Strong and Heavy Black Liquor Tanks

401 KAR 60:005 (40 CFR 60 Subpart Kb), *Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984*. Pursuant to final changes published in the Federal Register on October 15, 2003 for this Subpart, these Strong or Heavy Black Liquor Tanks are exempt because each tank is less than 40 cubic meters, does not contain a VOL, and is a process tank (i.e., each process tank feeds recovery furnace(s)). Exemptions are referenced at 40 CFR 60.110b(b) and 60.110b(d) Subpart Kb.

401 KAR 60:005 (40 CFR 60 Subpart BB), *Standards of Performance for Kraft Pulp Mills*, is not applicable to black liquor storage tanks.

401 KAR 63:003 (40 CFR 63 Subpart S), *National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry,* is not applicable to strong or heavy black liquor storage tanks.

- Unit 24 or 9 - BPM Weak Liquor Tanks

401 KAR 60:005 (40 CFR 60 Subpart Kb), *Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984.* Pursuant to final changes published in the Federal Register on October 15, 2003 for this Subpart, these weak liquor tanks are exempt because they are process tanks (i.e., each process tank feeds recovery furnace(s)).

- Unit 27 - BPM Recovery Boiler/Furnace No. 3
- Unit 29 - BPM Recovery Boiler/Furnace No. 4

401 KAR 59:080, *New kraft (sulfate) pulp mills*, is not applicable since this affected facility was

commenced after September 24, 1976.

40 CFR 60.40 (NSPS Subpart D), *Standards of Performance for Fossil-Fuel Fired Steam Generators over 250 mmBtu constructed after August 17, 1971*, is not applicable since the BLS is not one of fossil fuels as defined in this subpart.

40 CFR 60.40b (NSPS Subpart Db), *Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units (greater than 100 mmBtu), constructed after June 19, 1984*, is not applicable since the steam generating is subject to 40 CFR 60 Subpart BB.

401 KAR 60:005 (40 CFR Subpart Dc), *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units,* is not applicable since the boiler was constructed prior to June 9, 1989.

- Unit 28 - BPM Smelt Tank No. 3
- Unit 30 - BPM Smelt Tank No. 4

401 KAR 59:080, *New kraft (sulfate) pulp mills*, is not applicable since this affected facility was commenced after September 24, 1976.

401 KAR 60:005 (40 CFR 60 Subpart Kb), *Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984*, is not applicable since the storage vessel(s) associated with the Emission Unit 28 are exempt because of a specific exemption granted to process flow through tanks in the pulp and paper industry (Docket No. 00-1218, United States Court of Appeals for the District of Columbia, Federal Register Vol. 68, No. 1999, dated 10/15/2003).

- Unit 42 - BPM BFB Boiler

401 KAR 60:005 (40 CFR 60 Subpart D), *Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After August 17, 1971*, is not applicable since the unit accommodates the use of combustible materials other than fossil fuels.

401 KAR 60:005 (40 CFR 60 Subpart Da), *Standards of Performance for Electric Utility Steam Generating Units for Which Construction is Commenced After September 18, 1978*, is not applicable since the unit will not generate electricity to sell.

401 KAR 60:005 (40 CFR Subpart Dc) *Standards of Performance for Industrial-Commercial-Institutional steam Generating Units*, is not applicable since the maximum heat input capacity is greater than 100 mmBtu/hr.

- Unit 46 - BPM No. 2 Power Boiler

This Boiler was constructed in 1969, or is not part of a utility generating system; hence, the following are not applicable:

401 KAR 60:005 (40 CFR 60 Subpart D), *Standards of Performance for Fossil-Fuel-Fired*

Steam Generators for Which Construction is Commenced After August 17, 1971.

401 KAR 60:005 (40 CFR 60 Subpart Da), *Standards of Performance for Electric Utility Steam Generating Units for Which Construction is Commenced After September 18, 1978.*

401 KAR 60:005 (40 CFR Subpart Db), *Standards of Performance for Industrial-Commercial Institutional Steam Generating Units* constructed after 1984.

401 KAR 60:005 (40 CFR Subpart Dc), *Standards of Performance for Industrial-Commercial-Institutional steam Generating Units*. Applies is each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts (MW) (100 mmBtu/hr) or less, but greater than or equal to 2.9 MW (10 mmBtu/hr).

EMISSION AND OPERATING CAPS DESCRIPTION:

Refer to Sections B.1 and B.2 in the Title V operating permit for the operating and emission limits per each process unit at the Mill.

Emission Point	Description	Operating Limits	Pollutants	Emission Limits (TPY)
Unit 6	KMM Package Boiler (180 mmBtu/hour)	<= 157,680 mmBtu/yr	PM	0.1 lbs/mmBtu 25 to preclude PSD
			PM_{10}	15 to preclude PSD
			SO_2	0.8 lbs/mmBtu 40 to preclude PSD
			NO_x	40 to preclude PSD
			Opacity	20% or 40%
Unit 7	KMM No. 2 Backup Boiler (400 mmBtu/hour)	<= 350,400 mmBtu/yr	PM	0.2 lbs/mmBtu 25 to preclude PSD
			PM_{10}	15 to preclude PSD
			SO_2	0.315 lbs/mmBtu 40 to preclude PSD
			NO_x	40 to preclude PSD
			VOC	99 to preclude PSD
			Opacity	20% or 27%
Unit 14	BPM Continuous Digester System	512,487 oven dried tons per year (ODTY)	TRS	5 parts per million (ppm) @ 10% oxygen
Unit 19	BPM No. 2 Bleach Plant	182,500 air-dried tons per year (ADTY)	HAPs	< 10 ppm 0.001 kg of total chlorinated HAP mass per megagram of ODP
Unit 20	BPM No. 3 Bleach Plant	438,000 ADTY		
Unit 21	BPM ClO_2 Generator	620,500 ADTY		
Unit 22	BPM Multiple Effect Evaporator System	967,250 tons of Black Liquor Solids (BLS) per year	TRS	5 parts per million (ppm) @ 10%

Emission Point	Description	Operating Limits	Pollutants	Emission Limits (TPY)
Unit 27	BPM Recovery Boiler/Furnace No. 3	383,250 tons of BLS per year	PM	0.025 gr/dscf @ 8% 106.5 TPY
			PM_{10}	18 lbs/hr 79.7 TPY
			TRS	5 ppm @ 8%
			SO_2	200 ppm @ 8%
			NO_x	150 ppm @ 8%
			PM concentra-tion	0.10 g/dscm (0.044 gr/dscf) @ 8%
			Opacity	35%
Unit 28	BPM Smelt Tank No. 3	383,250 tons of BLS per year	PM	0.12 lbs/ton of BLS 23 TPY
			PM_{10}	4.7 lbs/hr 20.6 TPY
			TRS	0.033 lbs/ton of BLS
			SO_2	0.1 lbs/ton of BLS
			PM concentra-tion	0.10 kg/Mg (0.20 lbs/ton) of BLS fired
Unit 29	BPM Recovery Boiler/Furnace No. 4	584,000 tons of BLS per year	PM/PM_{10}	0.044 gr/dscf @ 8% 132.61 TPY
			CO	200 ppm @ 8% 639.63 TPY
			NO_x	110 ppm @ 8% oxygen 577.95 TPY
			SO_2	100 ppm @ 8% 731.01 TPY
			TRS	5 ppm @ 8% 19.42 TPY
			VOC	20 ppm @ 8% 100.51 TPY
			Opacity	35%

Emission Point	Description	Operating Limits	Pollutants	Emission Limits (TPY)
Unit 30	BPM Smelt Tank No. 4	584,000 tons of BLS per year	PM/PM_{10}	0.20 lbs/ton of BLS 29.57 TPY
			SO_2	0.1 lbs/ton of BLS 24.64 TPY
			TRS	0.033 lbs/ton of BLS 8.13 TPY
			VOC	0.16 lbs/ton of BLS 39.42 TPY
Unit 33	BPM Slaker No. 3	72,000 gallons per hour green liquor or 18.86 tons/hr of CaO	PM	2.34 or $[3.59(P)^{0.62}]$ or $[17.31(P)^{0.16}]$ lbs/hour P is the processing rate in tons/hour
Unit 37	BPM Lime Silos	165,219 tons CaO per year		
Unit 38	BPM Petroleum Coke Storage Silo	17,500 tons of coke per year		
Unit 54	K-1&2 Starch Silos	29,930 tons per year	Opacity	20%
Unit 36	BPM Lime Kiln No. 3	165,219 tons CaO per year Fuel oil with sulfur content of less than 0.50% Heat input < 115 mmBtu per hour	PM/PM_{10}	0.067 gr/dscf @ 10% 38.89 TPY
			CO	300 ppm @ 10% 243.57 TPY
			NO_x	150 ppm @ 10% 200.07 TPY
			SO_2	73 ppm @ 10% 135.78 TPY
			TRS	8 ppm @ 10% 7.89 TPY
			VOC	75 ppm @ 10% 93.18 TPY
			PM concentra-tion	0.15 g/dscm (0.064 gr/dscf) @ 10%
			Opacity	20%

Emission Point	Description	Operating Limits	Pollutants	Emission Limits (TPY)
Unit 40	BPM NCG/SOG Incinerator	470,554 oven dried tons per year	PM/PM_{10}	12.8 lbs/hr 56.1 TPY
			CO	12.6 lbs/hr 55.19 TPY
			NO_x	19.13 lbs/hr 83.8 TPY
			SO_2	3.3 lbs/hr 14.42 TPY
			TRS	0.92 TPY
			VOC	50 ppm @ 8% 12.57 TPY
Unit 42	BPM BFB Boiler 1050 mmBtu per hour (Hogged fuel input: 570 mmBtu/hr) (NG fuel input: 480 mmBtu/hr)	Fuel oil with sulfur content of less than 0.50%	PM/PM_{10}	0.07 lbs/mmBtu 43.8 TPY
			CO	0.3 lbs/mmBtu 827.82 TPY
			NO_x	0.25 lbs/mmBtu 830.0 TPY
			SO_2	0.033 lbs/mmBtu 73.67 TPY
			VOC	0.10 lbs/mmBtu 257.54 TPY
			HCI	0.09 lbs/mmBtu
			Mercury	0.000009 lbs/mmBtu
			Opacity	20%
Unit 44	BPM Chips & Wood Fuel Unloading	300 tons/hr	PM/PM_{10}	0.09 lbs/hr 0.4 TPY
			Opacity	20%
Unit 45	BPM Chips & Wood Fuel Handling	275 tons/hr	PM/PM_{10}	0.274 lbs/hr 1.2 TPY
			Opacity	20%
Unit 46	BPM No. 2 Power Boiler (150 mmBtu per hour)	<= 131,400 mmBtu/yr	PM	0.295 lbs/mmBtu
			SO_2	3.7 lbs/mmBtu
			Opacity	20%

PERIODIC MONITORING:

Section B of the Title V operating permit for each respective emission point lists the means of demonstrating compliance which may include periodic monitoring as a requirement. General Requirements of the Title V operating permit for the Mill specifies the reporting requirements for periodic monitoring.

OPERATIONAL FLEXIBILITY:

None

CREDIBLE EVIDENCE:

This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has only adopted the provisions of 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12 into its air quality regulations.